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REMARKS/ARGUMENTS

The Examiner is thanked for the review of the application as set forth in the outstanding office action. Reconsideration of the application in view of the foregoing amendments and the following discussion is respectfully requested.

Previous Proceedings in this Case

In an Office Action mailed September 20, 2005, the Examiner rejected claims 1-19 under 35 USC 103(a) as being allegedly unpatentable over WO 99/54141 (Bradshaw) in view of WO 95/34066 (Bruner).

In a paper filed October 13, 2005, Applicants traversed the rejections on the grounds that (i) a prima facie case of obviousness had not been established, (ii) that the cited references do not disclose, teach or suggest all of the limitations of the rejected claims, (iii) that the Examiner had failed to establish a motivation to combine the teachings of Bradshaw with Bruner, and (iv) that the Examiner has failed to provide any support for combining allegedly obvious limitations for which the Examiner has taken "Official Notice". No amendments to the claims were made.

The Final Rejection

In the office action mailed December 28, 2005, the Examiner has maintained the rejection under 35 USC 103, that Claims 1-19 are unpatentable over Bradshaw in view of Bruner. The Examiner further alleges that applicant's arguments in the October 13th paper failed to comply with 37 CFR 1.111, subpart c,

As to 37 CFR 1.111, subpart c, this regulation does not apply to the September 13th paper, in which no amendments to the claims were made. Particularly, the regulation states:

c) In amending in reply to a rejection of claims in an application or patent

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under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

Applicants' paper further complied with 37 CFR 1.111, subpart b, which provides in pertinent part: "The reply by the applicant or patent owner must be reduced to a writing which distinctly and specifically points out the supposed errors in the examiner's action and must reply to every ground of objection and rejection in the prior Office action. The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references." The October 13th paper clearly complied with this requirement, at pages 7-11.

Claims Rejections – 35 USC 103

The rejection under Section 103 should be withdrawn, on the grounds previously asserted in the October 13th paper, and because neither Bradshaw nor Bruner, alone or in combination, disclose, teach or suggest all of the limitations of the rejected claims. Applicants disagree with the Examiner's recitation of teachings of Bradshaw and Bruner, and with the Examiner's recitation of applicants' admissions regarding prior art.

As pointed out in applicants' prior response, neither Bradshaw nor Bruner, alone or in combination, disclose, teach or suggest at least the following limitations:

" . . . scanning a reference pattern on a disc to create a table of coordinate data; and

calibrating the gain of a fine actuator based on the table of coordinate data."

as recited in Claim 1 and incorporated into dependent Claims 2-9. Indeed, the Examiner does not assert that Bradshaw describes these features. Nor does the

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Examiner assert that the secondary reference Bruner describes these features.

The Examiner asserts that Bradshaw discloses setting up a reference coordinate system on a disk, at 19:25 to 20:13, and that Bruner discloses at page 4 "computing various disk calibration parameters including current equations used to generate null currents that maintain the transducer of the drive, i.e. gain." However, the above-noted features of Claim 1 are not addressed in the outstanding rejection, except to assert at pages 3-4 of the action that "the polar coordinate system of the prior art meets the claimed element," i.e. "scanning a reference pattern on a disc to create a table of coordinate data."

The Examiner further asserts that "it would have been obvious... to combine the teachings of Bradshaw and Bruner," and that "this would result in a system in which a reliable boot of a disk was provided." Applicants respectfully disagree that this broad combination of teachings is proper in this case.

Measuring a claimed invention against the standard established by 35 USC 103 requires the critical step of casting the mind back to the time of invention, to consider only the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the art. The case law of the Federal Circuit makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. Evidence of a suggestion, teaching or motivation may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or in some cases, from the nature of the problem to be solved. The range of sources available, however, does not diminish the requirement for actual evidence. The showing of such actual evidence must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. The required showing of evidence should include particular factual findings. In re Dembiczak, 50 USPQ 2d 1614, 1617 (Fed.Cir. 1999).

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Here, the Examiner asserts that teachings of a reference concerning a radial printing system and method (Bradshaw) are properly combinable with teachings of a reference concerning factory calibration of servo parameters in a hard disk drive. The reasoning given in the office action does not support this combination of teachings. "Reliable boot of a disk" may be a function of Bruner, but it is not explained why such a purpose would apply to the radial printing system and method of Bradshaw. For this reason alone, a prima facie case of obviousness has not been established. The asserted combination is the product of prohibited hindsight reconstruction.

The assertion that the polar coordinate system of Bradshaw, used to convert image points from an image source to be printed into a polar-based representation of the image (abstract), meets the above-recited feature of Claim 1 ("...scanning a reference pattern on a disc to create a table of coordinate data"), is without foundation in the reference. Applicants pointed out, in the October 13th paper, that Bradshaw described the "polar data points" which "the buffer 506 may arrange . . . such that the firing block 506 may access" them are from a "polar based bit map" which was converted from a "rectangular based bitmap 518" by a rectangular to polar block." Page 16, line 27- Page 17, line 1. Bradshaw does not disclose, teach or suggest, "scanning a reference pattern on a disc to create a table of coordinate data" as recited in claim 1, "scanning a sawtooth pattern on a non-data side of an optical disc" as recited in claim 10 or "generating a table of coordinate data by scanning a reference pattern on an optical disc" as recited in claim 15.

Further, the office action does not even allege that either applied reference describes all the above quoted features of Claim 1. It is well settled that all claim limitations must be taught or suggested by the prior art, e.g. MPEP 2143, 2143.04, and thus a prima facie case of obviousness has not been made.

The applied references also do not teach or suggest:

" . . . scanning a sawtooth pattern on a non-data side of an optical disc;

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generating a reflective signal based on the scanning; converting a duty cycle of the reflective signal into a radius value;
incrementing a DAC (digital to analog converter) count to a new DAC count;
repeating the scanning, the generating, and the converting; and
calculating a fine actuator gain based on the DAC counts and the radius values."

as recited in Claim 10 and incorporated into dependent Claims 11-14. Here again, the Examiner does not assert that these features are described by Bradshaw or Bruner. The Examiner addresses this lack of teaching of the applied references by taking official notice:

"Official Notice is taken that both duty cycle calibration and digital to analog conversion are old and well known. It would have been obvious ... to calibrate the duty cycle of the reader in order to sync the reader with the specific disc being read. It would have been obvious ... to perform a digital to analog conversion in order to allow analog circuitry of the reader to analyze the information held on a digital optical disc. Bradshaw and Bruner do not disclose the linear reference pattern of the sawtooth reference pattern. However, both of these are also old and well known. It would have been obvious ... to use either a known linear or sawtooth reference pattern as a matter of design choice as there is no criticality to either reference pattern currently disclosed."

The taking of Official Notice in this case is improper. For example, 5021937 (Cohen) is cited in support of alleged duty cycle calibration. Applicant disagrees with the alleged teachings of Cohen, but in any event it is clear that none of the references teach or suggest "converting a duty cycle of the reflective signal into a radius value." US 4,720,754 is cited as allegedly disclosing a sawtooth reference pattern, but fails to disclose "scanning a sawtooth pattern on a non-data side of an optical disc" or "generating a reflective signal based on the scanning." The rejection is the product of improper hindsight reconstruction, in an attempt to combine features of unrelated references base only on teachings of applicants' specification. Furthermore, the

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Examiner does not assert that the prior art teaches all elements of the claimed subject matter. The allegation regarding obvious design choice to use either a known linear or sawtooth reference pattern is inapposite, since there is no allegation that either reference describes scanning a pattern on a non-data side of an optical disc or generating a reflective signal based on the scanning, or converting a duty cycle of the reflective signal into a radius value, as recited in Claim 15. Further the allegation of obvious design choice is precluded where, as here, the claimed subject matter and the function it performs is different from the prior art. See, e.g., In re Gal, 25 USPQ 2d 1076, 1078 (Fed.Cir. 1992). The allegation regarding criticality is without legal foundation.

The applied references also fail to teach or suggest:

" . . . generating a table of coordinate data by scanning a reference pattern on an optical disc; and
calibrating the gain of a fine actuator based on the table of coordinate data. "

as recited in Claim 15 and incorporated into dependent Claims 16-19. Similar considerations apply to Claim 15 as discussed above regarding Claim 1.

The claims depending from the independent claims add patentably distinguishing features, and are also not taught or suggested by the applied references. For example, with respect to claims 2, 4, neither Bradshaw nor Bruner discloses, teaches or suggests at least the following limitations:

" . . . generating a reflective signal based on the reference pattern . . . ";
as recited in claim 2;

" . . . calculating a radius from a duty cycle of a reflective signal generated from the reference pattern . . . "
as recited in claim 4.

Bruner relates to a "storing calibration parameters on the disk of a hard disk

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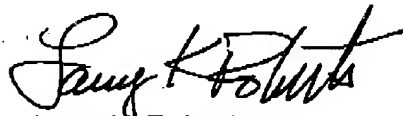
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drive." Page 1, lines 5-6. Bruner states that "[h]ard disk drives contain a magnetic disk which rotates relative to a transducer head." Page 1, lines 10-11. Bruner does not disclose, teach or suggest scanning an "optical disc" as recited in claims 10 and 15 and does not disclose, teach or suggest "generating a reflective signal based on the reference pattern" or "calculating a radius from a duty cycle of a reflective signal generated from the reference pattern," as recited in claims 2 or 4 respectively.

Conclusion:

The outstanding rejection has been addressed, and the application is in condition for allowance. Such favorable reconsideration is solicited.

Respectfully submitted,



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